

Engineering 9/28/42

CIVIL AERONAUTICS JOURNAL



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NUMBER 11

Opportunity Knocks For Men 18 to 37 in New CPT Program

A revised Civilian Pilot Training Program, directly geared to the pilot requirements of the War and Navy Departments, has been launched by the Civil Aeronautics Administration.

The Navy part of the program calls for training a group of 20,000. Only 1,500 of these are intended for CAA advanced courses aimed at specialty duty. The balance will go to Naval Aviation training schools for combat training. Naval trainees will be enlisted in the Naval Reserve and must have the approval of the Naval Aviation Cadet Selection Board.

The Army program will aim at training large numbers of instructors and airline co-pilots. A certain percentage will be trained for duty with ground arms. Others will be placed in the new Glider Corps. Training will be available to those who meet CAA mental and physical requirements. Trainees will be enlisted in the Army Reserve Corps. Specific numbers will be called for duty at the end of certain courses. Others will remain on an inactive status as instructors and airline co-pilots. Army enrollees may sign up with CAA representatives and then be cleared by Army centers.

Seven courses will be offered in the revised program, which is open to men between 18 and 37. Details may be obtained from CAA field representatives.

- Keep 'Em Flying -

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Stanton Confirmed

Charles I. Stanton, veteran of commercial aviation, who began his flying career in 1917, has been confirmed by the Senate as Administrator of the Civil Aeronautics Administration. His appointment was recommended to the President by the Secretary of Commerce. Mr. Stanton was born in Medford, Mass., July 28, 1893, learned to fly at Kelly Field and served as second lieutenant with the 122nd Aero Squadron.

Converted Trainer Idea of CAA Head Solving Glider Need

The answer to mass production of training-giders, the Stanton glider, conceived by Administrator of Civil Aeronautics Charles I. Stanton, is now in production at light plane plants in the United States and the first one off the line is touring the country in an Army war exhibit.

Devised by Mr. Stanton to speed the nation's glider pilot training program, the Stanton glider is essentially a brilliant example of American ingenuity for converting available materials to new uses. It is the Popular Civilian Pilot Training primary-type training plane, minus its motor and with several simple additions.

In place of the motor, a nose is attached to the fuselage at the firewall and an additional seat is added, to be occupied by the pilot; a skid is added to make a tricycle landing gear arrangement; and a two-place trainer becomes a three-place glider, capable of being flown from any of three seats.

From the standpoint of wing loading the hybrid possesses a characteristic similar to a troop carrying glider. Towed by a plane, it takes off quickly, climbs well, eases into its glide and is very responsive.

"Air Conditioning" Instructors To Get Training In Ground Schools

Arrangements opening aviation ground school classes to high school teachers who plan to participate as instructors in the national "air-conditioning" program have been announced by the Civil Aeronautics Administration and the United States Office of Education, co-sponsors of the program.

More than 650 colleges and universities are accepting registration of teachers in the regular summer ground school classes of the CAA's pilot training program. No flight training will be given. Any person who is a secondary school teacher and who plans to teach pre-flight aeronautics courses or other aviation courses not later than the fall term of 1942 is eligible.

The CAA will reimburse the college for each teacher who completes the required number of classroom hours and takes the prescribed institution examination. The elementary course comprises 72 hours in the Civil Air Regulations, Meteorology, Navigation, and general servicing and operation of aircraft. The secondary course covers such subjects as Theory of Flight, Navigation, Meteorology, and aircraft engine operations.

The Civil Aeronautics Administration will not object if institutions wish to permit teachers who do not meet the above eligibility requirements to enroll in these courses, provided that instruction be given such individual at no cost to the Government.

- Keep 'Em Flying -

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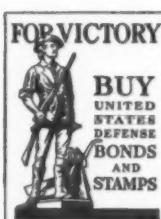
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Helium Welding

Helium, the noninflammable gas used to keep dirigibles aloft, will speed the production of warplanes through a new process permitting the use of the element in blow torches. The new process makes possible the welding of inflammable metals like magnesium.

**New Aeronautical Publications**

Among recent Government publications dealing with the subject of aeronautics are the following:

EDUCATION OFFICE, Leaflet 62; Pre-Aviation-Cadet Training In High Schools; 1942-17 pages. Price 5 cents. Classification number FS 5.18:62.

ARMY TECHNICAL MANUAL 1-281; Elementary Weather For Pilot Trainees; April 22, 1942. 23 pages illustrated. Price 10 cents. Classification number W 1.35:1-231.

ARMY TECHNICAL MANUAL 1-233; Elementary Physics For Pilot Trainees; April 22, 1942. 116 pages illustrated. Price 20 cents. Classification number W 1.35:1-233.

ARMY TECHNICAL MANUAL 1-900; Mathematics For Pilot Trainees; April 22, 1942. 64 pages illustrated. Price 10 cents. Classification number W 1.35:1-900.

AIR PILOTS; 1942; Hearing, 77th Congress, 2d session, on H. R. 6799 to increase the monthly maximum number of flying hours of air pilots, as limited by the Civil Aeronautics Act of 1938; April 10, 1942. 10 pages. Price 5 cents. Classification number Y 4.C 73/2: Ai 7/0.

CIVILIAN AVIATION TECHNICIANS AND MECHANICS; 1942; Hearing, 77th Congress, 2d session, on H. R. 5895, to amend the Civilian Pilot Training Act of 1939 so as to provide for the training of civilian aviation technicians and mechanics; April 10, 1942. 7 pages. Price 5 cents. Classification number Y 4.C 73/2: Ai 5/3.

CIVIL AERONAUTICS BOARD—Civil Air Regulations—Part 66, Foreign Air Carrier regulations; 1942. (Effective January 15, 1942) 2 pages. Price 5 cents. Classification number C 31.209.66.

When ordering these publications, send remittance by postal money order, express order, coupons, or check to the Superintendent of Documents, Government Printing Office, Washington, D. C. Always give title, issuing office, or classification number when listed.

Aeronautical Legislation

Listed below are recent measures concerning aeronautics pending before, or enacted by, Congress.

Introduced

S. 2807—AVIATION ACADEMY (Stewart); a bill to provide for the establishment and operation of a Military Aviation Academy and a Naval Aviation Academy; referred to the Committee on Military Affairs.

Passed

S. 2553—ARMY FLIGHT OFFICER (Reynolds); the bill to create the title of flight officer in the Army Air Forces and to amend the Army Aviation Cadet Act was passed by the Senate.

S. 2496—NAVAL AIRCRAFT (Walsh); the bill to authorize the construction or acquisition of additional naval aircraft was passed by the House.

Watches to Planes

Possibility of converting part of the watch industry to the manufacture of aircraft instruments is under consideration by the War Manpower Board. The industry, according to the 1939 manufacturing census, included 18 establishments.

Timesaver Rewarded

For the invention of a timesaving tool, R. E. Weber, 66-year-old machinist at Douglas Aircraft, has been given a \$100 reward.

Door Is Thrown Open For Motorless Pilots

A recent call for volunteers to train as glider pilots, issued by the Civil Aeronautics Administration in answer to a War Department request, has been strengthened by elimination of the entrance requirement which made a private pilot certificate or higher mandatory. The training program is now open to men between 18 and 35 regardless of previous experience.

Anyone with gliding experience is of course desired for the program but the call for volunteers is aimed at all who can pass the physical requirements, which are not as strict as those set up for aviation cadets. Vision may be 20/40, correctible with glasses to 20/20. Details can be obtained from any CAA field representative.

New Models Added to Old Type Approvals

(Approval numbers and dates of approval of new models in parentheses)

Aircraft

Lockheed, 18-56, 22-place closed land monoplane. Engines, 2, Wright Cyclones 704C9GC-1 (Ganged 3:2). (Type Certificate No. 723, 5-30-42.)

Engines

Air-cooled Motors, Franklin 6ACT-298-14 and M4; 6 cylinder horizontal opposed air-cooled; maximum ratings: Except take-off, 90 horsepower at 3,200 revolutions per minute at full throttle at 17,000 feet pressure altitude and 130 horsepower at 3,200 revolutions per minute at full throttle at 7,500 feet pressure altitude; take-off, 130 horsepower at 3,200 revolutions per minute at 23.3 in. Hg. or 135 horsepower at 2,930 revolutions per minute at full throttle. Provides for the use of two Auto-Lite electric generators, Delco-Remy starter. AC fuel pump, Peso hydraulic and vacuum pumps, at additional weight of 50 pounds. (Type Certificate No. 225, 6-11-42.)

Appliances

Pan American Airways, safety belt, model 12.130.001B. Approved for one person. (Type Certificate No. 104 6-10-42.)

Goodyear, low pressure wheels, model L6H MBS. 6.00-6. Approved static load per wheel 1,200 pounds. (Type Certificate No. 37, 6-15-42.)

Bearing Production Limited

The War Production Board last month ordered concentration of production on certain sizes of antifriction control and pulley bearings. Under Order L-145 a producer of bearings may not accept purchase orders for any of the sizes specified on a list attached to the order, unless he is designated as an "authorized producer" of the size ordered. Copies of the order may be obtained by writing the Distribution Unit, Division of Information, Office for Emergency Management, Washington.

INDIVIDUAL ACCIDENT REPORTS

Centrifugal Force

Fatal In Low Turn

Murrel McClellan Cahill and his passenger, Chester A. Krasch, were fatally injured in an accident which occurred on February 13, 1942, near Woodlake, Nebr. McClellan held a private pilot certificate with a rating to fly single engine land planes of 0-80 horsepower and had flown approximately 346 hours. Krasch, the passenger, held a student pilot certificate. The aircraft, a Piper J-2, was damaged to a considerable extent.

Pilot Cahill, accompanied by his passenger, took off from a hay meadow near Woodlake for the declared purpose of hunting coyotes while flying to the ranch of Allen Kime, 60 miles away. About 5 minutes later the plane, flying about 25 feet above the ground, was seen by a motorist on Highway No. 20 a short distance from Woodlake. The aircraft, when first noticed, was flying west, parallel to the highway, in the same direction and at approximately the same speed as the car, 50 miles per hour. The pilot started a sharp turn to the right and the plane was stalled while still in this turn, falling to the ground directly on its nose.

Subsequent investigation disclosed that the airplane was overloaded about 55 pounds, carrying a double-barreled shotgun, a pistol, two boxes of ammunition, and 7½ gallons of gasoline in cans, in addition to its normal load of two adult passengers. The pilot, almost entirely self-trained, was hunting coyotes from a plane without a permit, despite a warning from local police to discontinue this practice. An accumulation of frost was found on the wing. Seat belts were not fastened at the time of the accident. Inspection of the wreckage disclosed no indication of structural failure or of malfunctioning of the engine or controls prior to impact. There was no indication of any lack of fuel.

Probable cause.—Stall during sharp turn at low speed and very low altitude.

Contributing factor.—Pilot's recklessness.

Instrument Weather

Fatal To Contact Flight

Daniel Stone and Earl H. Waltz were fatally injured in an accident which occurred on May 17, 1941, approximately 7 miles northwest of Hyndman, Pa. Stone held a private pilot certificate with a class 2S land rating and had flown approximately 395 hours. Waltz, the passenger, was uncertified. The aircraft, a Fairchild model 24-G, was demolished.

Stone, accompanied by Waltz, took off from Washington, D. C., for a flight to Cleveland, Ohio. The flight did not reach its destination and remained unreported. Intensive search by several agencies over an extended period of time failed to locate the airplane. The wreckage was finally discovered on No-



Accidents Up In May

There were 15 fatal accidents reported to the Safety Bureau of the Civil Aeronautics Board for the month of May 1942. Two of these accidents occurred in air carrier operation and 13 in nonair carrier.

Two of the nonair carrier fatal accidents occurred when the pilots stalled at a low altitude. A third fatal accident was the result of the pilot stalling the aircraft in an inverted position, too low to effect recovery. Another case of low acrobatics resulted in the death of pilot and his passenger. One accident apparently resulted from a structural failure during a snap roll. A mid-air collision was fatal to the pilots of both aircraft. During the filming of a motion picture, an actor became confused and stepped into the path of a taxying aircraft. He was struck and fatally injured by the wing tip of the aircraft.

A table comparing the fatal accidents in April and May, 1941 and 1942, follows:

	Nonair carrier	Air carrier		Total
		Domestic	Foreign	
May 1942	13	2		15
May 1941	29			29
April 1942	6			6
April 1941	17			17

(See ACCIDENTS, page 144)

vember 29 by a farmer who accidentally came upon it while walking through the woods. The aircraft, which contained the remains of the two occupants, was badly crushed and burned.

The official weather report indicated that the weather over the route to be flown, and particularly over the Alleghenies in the general region of the accident showed low ceilings, head winds and light rain and would require instrument flight. Investigation disclosed that the pilot had not filed a flight plan for the trip. It appears that he was not qualified for instrument flight. There was no radio contact with the plane during the flight.

The site of the accident, approximately 2,600 feet above sea level, was about 2 hours flying time from the point of departure and was almost exactly on course. The wreckage lay among tall trees and the fact that none of the tops of these trees was broken indicated that the aircraft had struck the ground while either in a spin or a dive. The plane had burned and the nature of the re-

(See WEATHER, page 145)

A Broken Harness Can Spoil a Ride

Following is the text of a safety bulletin issued by the Safety Bureau of the Civil Aeronautics Board:

Detachable Parachute Harness

A counterpart of the old saying that "a chain is no stronger than its weakest link" might be applied to parachutes since no parachute can be stronger or safer than its harness.

A number of instances have come to light recently of parachute harnesses being used in training operations which were excessively worn and as a result were probably unsafe for actual use. In all such instances, the harness was of the quick detachable type where the parachute and harness can be quickly separated and each is interchangeable with other parachute assemblies of the same make and type. Furthermore, the harness has no positive means of identification such as a serial number or other individual designation.

In many instances, when the parachute is due for inspection and repacking, the flight operators have detached the parachute from the harness, sending the parachute to the rigger, who may be located at a distance, while the harness is retained for use with other parachute packs. In a case of this kind, the rigger has no opportunity to inspect the harness, and in fact, even if he did, there is no assurance that the harness thus inspected would be the one which would be actually used in the event of a forced jump.

Because of the foregoing facts, the Safety Bureau desires to caution all flight operators using detachable type parachutes, to check their parachute harnesses and in cases where they are worn or damaged, to return them to the manufacturer for inspection and repairs or replacement, if necessary.

Also, it is suggested that parachute riggers make every effort to have the complete parachute assembly, including harness, as well as parachute, together at the time of repacking, so that the entire parachute, as it would be used in the air, is available for inspection. While it is realized that under present regulations this would not assure that the same harness would be used with the parachute, it would be a big step in the right direction, as the rigger would then have a chance to refuse to pass harness which has become unsafe.

Airport Management Forum

Officials Should Be Told Value of Airports

"It has been my observation that standardization of information could be compiled by some organization for the benefit of all airport managers. Information relating to authority, I believe, is one of the most important. At the present time, municipalities have certain rules and regulations regarding flying, in addition to the CAA and military. Secondly, information relating to cost of operation and various sources of revenue would be of great benefit. Thirdly, it is my impression that there are too many supervisors for the amount of supervision. In other words, if an airport manager of a municipal airport could, through some method, be under the direct supervision of the Civil Aeronautics Administration, it would tend for cleaner and more efficient operation. * * * A definite program should be set up to instruct local politicians as to the importance and future importance of all airports."

RICHARD C. BONHURST, Mgr.,
Niagara Falls, N. Y., Municipal Airport.

Educate Local Officials And Battle is Half Won

"I believe the best effort any organization can render is to try to educate city, county, and State officials on the importance of airports. When these hard turning men are educated aviation and airports will be an easy problem; not until then * * * we are all confronted by the outside pest trying to tell us how to run our business. Someone who knows nothing of our problems, or hazards caused by their ignorance.

H. L. L.

Flight Data Restricted By War Department

At the request of the War Department, the "Weekly Notice to Airmen," "Air Navigation Radio Aids," "Instrument Approach Procedures," "Danger Areas in Air Navigation," and all other publications covering flight data have been placed in a restricted classification and will not be available to the public. Included in this classification is the "Communications Manual," except the following portions of Chapter B: Parts one and three, sections one and three of part four, and part seven.

Henceforth restricted publications will be available only to military and naval forces through their respective channels, government agencies, clearance officers at designated landing areas, the CAA, flight personnel, dispatchers and key personnel of airlines, and Wing Commanders of those Civil Air Patrol units directly under Army control.

Notice

At the suggestion of numerous airport managers, who evidently have much to relate on specific problems of management, the Airport Management Forum, beginning next issue, will take on a semi-Gallup Poll aspect. Percentage returns on opinions, as well as remarks, of airport managers will be presented.

How to Develop Port Problem Of Manager

"While the Trinidad (Colo.) Air Port is at present not very active as far as commercial flying goes, there are a number of citizens here in Trinidad who would greatly appreciate anything that could be done to further develop the port. Any advice you might have to offer that would help us make a better use of the Air Port facilities that we have would be greatly appreciated."

R. T. ARMSTRONG, Mgr.

A Flag For Airliners And a Siren For Trouble

"As we are not a control airport, we use a red flag, which is raised when the Continental Air Lines planes call in 5 minutes before they land. The local ships then cannot land or take off until the ship has cleared the runway and the flag is lowered * * * We have a three-horsepower, 220-volt siren to be used in case of emergency."

E. G. WAYMAN, Mgr.,
Pueblo, Colo., Municipal Airport.

Let's Have Suggestions For Making This Port Pay

"Unfortunately, the Houghton County Airport is one of the small fields located off the line of travel and traffic, therefore, is practically nonexistent except for an occasional visitor. This field and the hangar have been practically turned over to the Fontana School of Flying, which is training cadets for the Army. No rent nor income is asked of these people nor has any charge ever been made for the use of our facilities. Unfortunately, being thus listed as a field, we are subjected to all the CAA regulations. * * * We would be interested in reading any material pertinent to the management of these smaller, municipally owned, nonincome producing fields."

C. F. WINKLER,
County Highway Engineer.

Thanks, Mr. Hathaway! We'll Try The Idea

"Regarding a page in the Journal given over to airport management, we feel the best way to handle this matter would be to send out questionnaires to the various airports, asking for pertinent information in the way of particular problems to be taken up and discussed in the most intelligent manner."

MALCOLM L. HATHAWAY, Mgr.,
Tred Avon Flying Service, Easton, Md.

Accidents

(Continued from page 143)

Sealed Tank Vent Causes Fuel Failure

Russell J. Alley was seriously injured in an accident which occurred at Quartzsite, Ariz., on March 1, 1942. He held a private pilot certificate, with a rating to fly single-engine land planes of 80 horsepower or less, and had flown about 2,000 hours. The aircraft, a Culver Cadet LCA, powered with a Continental 75 horsepower engine, was damaged to a major extent.

Alley took off from Quartzsite Airport and climbed to an altitude of about 3,000 feet, where he commenced a series of gentle turns. At this point the engine stopped, and the pilot made an attempt to glide back to the airport, since there was no other suitable landing site in the vicinity. He undershot and fell short of the runway by approximately 1,000 feet. The wheels of the extended landing gear touched the ground on the crest of a sloping ridge, and the airplane bounced into a ravine, coming to rest against a tree on the opposite side.

Investigation disclosed that this plane had been flown from Van Nuys, Calif., to Quartzsite on December 27, 1941, by Roger D. Herb, who experienced partial engine failure several times en route. However, each time the engine had picked up again before a forced landing became necessary. After arrival at Quartzsite, an effort was made to determine the cause of the engine failure but without success. The ship was not flown again until March 1, 1942. Investigation subsequent to this accident revealed no indication of mechanical failure of the engine before impact. It was ascertained that just prior to December 27, the gasoline tank cap had been painted, following repairs to the aircraft after an accident, and that the vent holes in the cap were plugged with paint, which was never removed. This would reduce the gasoline flow sufficiently to cause engine stoppage.

Probable Cause.—Paint-sealed gas tank vent causing engine failure.

Contributing Factor.—Unsuitable terrain.



Airways and Airports

Regional Schools Training Airways Communications Personnel

In keeping with the slogan "Keep 'em Flying, and Safely," the Civil Aeronautics Administration operates one of the world's largest communication systems. Consisting of teletype, radiotelegraph, and leased telephone facilities, this network includes 426 Airway Communications stations staffed by 2,350 Aircraft Communicators.

Normally, the employment of personnel for replacement purposes or expansion does not present a very serious problem, but under present war conditions, the personnel problem has become increasingly acute. The armed forces have absorbed not only experienced men, but also most of those who would ordinarily be taken into the organization as replacements. Separations for various other reasons have also taken toll until it has become a real problem to keep all stations properly staffed.

To bridge the gap, the CAA has undertaken an extensive recruitment and training program designed to provide trained communications personnel. Experienced CAA communications men have been specially trained as instructors and training centers are being placed in operation in each of the eight regions—day and night classes at Anchorage, Alaska are already training two groups of 28 each.

Selection of the trainees has brought to light many interesting facts: Civil Service "screening" (aptitude tests) has proved especially reliable. People thus chosen have absorbed communications study material like a sponge would water. While the prime prerequisite has been a "touch" typing speed of 40 words a minute, many trainees have previous radio telegraph or electrical training and several possess pilot certificates. Some have college degrees and many have come from business establishments.

The list of trainee candidates includes a surprisingly large number of women. The airway communications field, while comparatively new to women, presents many interesting angles, and their aptitude for many phases of communications work should make them extremely valuable workers.

The course of study includes practical training in radio-telegraphy, teletype operation, communications procedures,

First Flight Strip On Atlantic Coast

Its exact location unannounced, the first emergency landing strip, capable of handling the biggest bombers of the air forces, has been completed on the Atlantic seaboard, the Federal Works Agency has announced.

Paved with 8-inch concrete, the first strip is 8,000 by 500 feet with a hard surface 7,000 by 150 feet. It is the first leg in a \$10,000,000 program which has been authorized by Congress.

Weather

(Continued from page 143)

sulting damage to trees and shrubbery indicated a highly localized fire of great intensity. Although the site of the accident is, as stated above, only about 2 hours flying time from the point of departure, the aircraft had been in the air approximately 4½ hours at the time of the accident.

This model Fairchild is equipped with two 20-gallon tanks, one in each wing. There is nothing to indicate that this particular airplane had a different or greater fuel capacity. From the engine fuel consumption curves it is estimated that the fuel consumption under average cruising conditions would be approximately 9 gallons per hour. The estimated flight time of 4½ hours would indicate that all the fuel available had been consumed.

Probable Cause:—Action of the pilot in continuing a contact flight into weather requiring instrument operation.

Contributing Factor:—Probable exhaustion of fuel.

Bomber Detail

Into a bomber go more than 100,000 man-hours of work. There are more than 30,000 different parts and, counting duplicates, there are several hundred thousand separate pieces of metal. The engines themselves are made of 8,000 separate pieces of metal, each of which must be machined.

Plane Production Cheering

We shall make 60,000 planes this year, War Production Board chairman Donald M. Nelson asserted last month. President Roosevelt had asked for 50,000 planes this year.

weather observing, and equipment maintenance. This training program will, within a period of 3 to 6 months, produce many trained Aircraft Communicators for duty on the vital communications front.

Down Beat On "Jeep" Sheep At National Airport

While the sight of dogs and even cattle in a glidepath might not startle the user of an auxiliary field, the sight of a sheep grazing near a runway can and did recently arouse the manager of the Washington National Airport, John Groves. He hollered over the phone to an assistant "Get that sheep off the field!" and the assistant, thinking he said "Jeep," replied "But those belong to the Army."

The sheep was removed but en route to the municipal pound guardianship of it was found to be vested in a railroad road which had boxcars on a siding near the port.

Designation of Medical Examiners

During the month of May 1942, the following named physicians were officially authorized to make physical examinations for the Civil Aeronautics Administration.

ALABAMA—Dr. Norman Van Wezel, 119 Adams Avenue, Montgomery.

ARIZONA—Dr. Wilfred J. Snodgrass, Commercial Street, Saint Johns.

CALIFORNIA—Dr. Robert Lewis, 2300 Duran Avenue, Berkeley.

COLORADO—Dr. William F. Brownell, Robertson Building, Fort Collins.

ILLINOIS—Dr. Howard M. Good Smith, 1000 West Deseray Parkway, Chicago.

IOWA—Dr. Kenneth C. Swan, University Hospital, Iowa City.

KENTUCKY—Dr. Homer A. Gilliam, 101 East North Street, Mayfield.

NEW JERSEY—Dr. Edward G. Osborn, 3320 Federal Street, Camden.

SOUTH DAKOTA—Dr. Wallace L. Matlock, 635½ Main Street, Deadwood.

TEXAS—Dr. Benjamin F. Chambers, 506 Adams Building, Port Arthur. Dr. Walter L. Jackson, 211 North Austin Street, Ranger.

VIRGINIA—Dr. William M. Robinson, 2920 Park Avenue, Richmond.

Examinations Discontinued

The following named physicians are no longer making examinations for the Civil Aeronautics Administration.

Dr. Clarence K. Weil, Montgomery, Ala.
Dr. Werner F. Hoyt, Berkeley, Calif.
Dr. G. E. Garrison, Fort Collins, Colo.
Dr. Paul R. Huber, Chicago, Ill.
Dr. James H. Allen, Iowa City, Iowa.
Dr. James T. Fowler, Mayfield, Ky.
Dr. Lester R. Wilson, Camden, N. J.
Dr. Guy C. Zarbauch, Deadwood, S. Dak.
Dr. Clifford E. Painiton, Port Arthur, Tex.
Dr. Claude L. Jackson, Ranzer, Tex.
Dr. David L. White, San Marcos, Tex.
Dr. William L. Hall, Richmond, Va.
Dr. Irvin A. Welchbrodt, Seattle, Wash.

Airline Examiners

The following named physician has been designated as an Airline Medical Examiner: Dr. Robert Lewis, 2300 Duran Avenue, Berkeley, Calif.

The following named physician is no longer acting as an Airline Medical Examiner: Dr. Werner F. Hoyt, 2300 Duran Avenue, Berkeley, Calif.

Opinions Available

The following Civil Aeronautics Board Opinions of Volume 3 are now available in printed form as advance sheets prior to their inclusion in a bound volume:

Opinion No. 13, TRANSCONTINENTAL & WESTERN AIR, INC. (*South Bend Operation*) ; Docket No. 464.

Opinion No. 14, MARQUETTE AIRLINES, INC.—CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY; ACQUISITION BY TWA ; Docket No. 7-401 (E)-1.

Opinion No. 18, CHICAGO AND SOUTHERN AIR LINES, INC.—MAIL RATES FOR ROUTE NOS. 8 AND 53; Docket No. 333.

Opinion No. 19, WIEN ALASKA AIRLINES, INC., SIGURD WIEN, AND MIROW AIR SERVICE—ACQUISITION OF MIROW AIR SERVICE; Docket No. 552.

Opinion No. 21, EASTERN AIR LINES, INC. (*Chicago-Atlanta Non-Stop Service*) ; Docket No. 665.

Opinion No. 24, AIR PASSENGER TARIFF DISCOUNT INVESTIGATION; Docket No. 233.

Opinion No. 26, DELTA AIR CORPORATION—MAIL RATES FOR ROUTES NOS. 24 AND 54; Docket No. 331.

Opinion No. 28, AMERICAN EXPORT AIRLINES, INC.—TEMPORARY CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY (*New York-Foynes Service*) ; Docket No. 694.

Opinion No. 29, BRANIFF AIRWAYS, INC.—MAIL RATE PROCEEDING; Docket No. 1-406 (A)-1.

Opinion No. 30, EASTERN AIR LINES, ET AL.—TEMPORARY AMENDMENT OF CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY (*Service to Huntsville*) ; Docket No. 709.

Opinion No. 31, MARINE AIRWAYS, ALASKA AIR TRANSPORT, INC.—CONSOLIDATION; Docket No. 358.

Opinion No. 32, ALL AMERICAN AVIATION, INC.—MAIL RATE FOR ROUTE NO. 49; Docket No. 518.

Opinion No. 33, AMERICAN AIRLINES, INC.—MAIL RATE PROCEEDING; Docket No. 334.

Opinion No. 35, AMERICAN AIRLINES, INC., ET AL.—TEMPORARY AMENDMENT TO CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY (*Service To Long Beach*) ; Docket No. 721.

Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C. for 5 cents each. When ordering, include the opinion serial number and the docket number as well as the opinion title.

Board Grants TWA Temporary Service

The Civil Aeronautics Board has granted temporary persons, property and mail authorization to Transcontinental & Western Air, Inc., to and from Terre Haute, Ind., on T. W. A.'s route No. 2 and in granting this authorization has stated that this action was taken because the public interest and war necessity required that service to Terre Haute be inaugurated.



New Andes Service Approval Announced

Board to Restore Limited Service

The Civil Aeronautics Board has announced approval by the President of the United States of authorization for a third trans-Andean service and an extension of Pan American-Grace, Inc.'s services between Quito, Ecuador, and Ipiales, Colombia.

The Board amended Pan American-Grace's certificate because of the need for service between Quito and the populous border area around Tulcan, Ecuador, and Ipiales. Tulcan is without airport facilities but is connected with Ipiales by a modern highway, thus both communities will be served by the new route.

The new service will be operated as part of a local Ecuadorian service authorized by the Board as a substitute for the operations of Seda (Sociedad Ecuatoriana de Transportes Aereos), the German affiliated air line whose rights were cancelled by Ecuador in 1941. All of the points formerly served by Seda are being served by Panagra.

The Board has also granted Pan-American-Grace authority for an Andean route from Antofagasta, Chile to Salta, Argentina.

Inland Mail Pay Fixed by Board

The Civil Aeronautics Board has announced fixing of the mail pay rate on Inland Air Lines, Inc.'s route No. 28 from Cheyenne, Wyo., to Great Falls, Mont., and route No. 35 from Cheyenne to Huron, S. Dak.

Effective from August 6, 1941, the carrier will receive 39.63 cents per airplane mile to be paid for a base poundage of 300 pounds of mail. The new rate will result in a substantial increase over the company's former rates of 33 cents and 33½ cents per airmail mile flown.

Would Halt "Let Down"

The House Committee investigating air crashes has urged adoption of a regulation prohibiting a pilot from "letting down" to determine visibility when he has been advised that the weather is below the authorized minimum for landing.

Note

The bound volume of CAA Reports—Volume 1 is now available and may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C. for \$1.50.

The Civil Aeronautics Board has announced that it will take action to restore air transportation service, limited to mail and property, to four air line routes on which temporary suspension of all service had been authorized. Restoring service to ten cities, the limited operations will be performed by single-engine aircraft, not required by the military service for any other purpose, over the following routes:

Inland Air Lines, Inc.—Route 35, Cheyenne, Wyo., to Huron, S. Dak.

Mid-Continent Airlines, Inc.—Route 48, Minneapolis-St. Paul, Minn., to Des Moines, Iowa, and Kansas City, Mo., and Des Moines, Iowa, to St. Louis, Mo.

Northeast Airlines, Inc.—Route 27, Boston, Mass., to Montreal, Canada.

Northwest Airlines, Inc.—Route 45, St. Paul-Minneapolis, Minn., to Duluth, Minn.-Superior, Wis.

A careful study of the proposed use of single-engine equipment has shown the proposal to be practical and useful. In making this announcement the Board stated that such operations will make a useful contribution to the war effort in speeding up the flow of mail and cargo to and from those cities deprived of all air service by the recent suspension. A contribution will also be made to a specialized type of pilot training that will redound to the benefit of the war effort, according to the Board.

Flag Stop Service Awarded Far North

The certificate of Pan American Airways, Inc., has been amended by the Civil Aeronautics Board to authorize service, on a flag stop basis, to and from Tanacross, Alaska, and Burwash Landing, Yukon Territory, Canada.

The new service authorization is for persons and property, except mail, on the route between Fairbanks, Alaska, and Whitehorse, Yukon Territory. Requests to operate between Tanacross and Anchorage, Alaska, and for approval of purchase of an Alaskan carrier, Lavery Airways, were denied. The Board has found that a third service, connecting Anchorage with the Fairbanks-Juneau-Seattle service, is not justified. By another action in the same order, which was approved by President Roosevelt, the Board denied Alaska Air Lines, Inc., a new company, a certificate to operate between Juneau and Anchorage, Alaska.

CIVIL AERONAUTICS BOARD

OFFICIAL ACTIONS

Abstracts of Opinions, Orders, and Regulations

ORDERS

ORDER No. 1774 June 2, 1942

Authorized National Airlines, Inc., to suspend service temporarily at Daytona Beach, Fla., and St. Petersburg, Fla., on its Route No. 31 until further order of the Board.

ORDER No. 1775 June 2, 1942

Authorized United Air Lines Transport Corporation to serve Monterey, Calif., through the Salinas Army Air Base Field, Salinas, Calif., for a period beginning on May 27, 1942, and continuing until such time as the Monterey Airport is available for use by the type of equipment then used by United Air Lines Transport Corporation in serving said point. (Subject to any necessary amendment of the air carrier operating certificate held by United Air Lines Transport Corporation with respect to such service.)

ORDER No. 1776 June 3, 1942

Authorized temporary holding of certain interlocking relationships in the matter of the applications of Charles Eugene Denney and Railway Express Agency, Inc.

ORDER No. 1777 June 4, 1942

Rescinded Service Suspension Order (Order Serial No. 1749) dated May 26, 1942, which authorized American Airlines, Inc., to suspend service temporarily at certain points; authorized American Airlines, Inc., to suspend service temporarily at Douglas, Ariz., on Route No. 4, Niagara Falls, N. Y., and Wilkes-Barre, Pa., on Route No. 7 and New Haven, Conn., Bridgeport, Conn., Springfield, Mass., on Route No. 18; and denied request of American Airlines for permission to suspend service at Elkins and Huntington, W. Va.

ORDER No. 1778 June 2, 1942

Authorized Mid-Continent Airlines to suspend service temporarily at St. Joseph, Mo., and Watertown, S. Dak., until further order of the Board.

ORDER No. 1779 June 5, 1942

Amended Order (Serial No. 1767) so as to begin suspension period of commercial pilot certificate No. 28971 held by Howard D. Campbell on June 20 instead of June 7.

ORDER No. 1780 June 5, 1942

Suspended for 6 months student pilot certificate No. S-275786 of Albert Blair Candy for piloting an aircraft outside of a control zone at an altitude of less than 1,000 feet with visibility

less than 1 mile, and other violations of the Civil Air Regulations. (Suspension to begin 10 days from date of Order.)

ORDER No. 1781 June 5, 1942

Suspended for 60 days student pilot certificate No. S-214156 of J. G. Cobb, Jr., for piloting an aircraft on a flight beyond a 50-mile radius of the operating base of his instructor, and other violations of the Civil Air Regulations. (Suspension to begin 10 days from date of Order and continue until respondent shall have completed to the satisfaction of an authorized representative of the Administrator of Civil Aeronautics a written examination on Parts 20 and 60 of the Civil Air Regulations.)

ORDER No. 1782 June 5, 1942

Suspended for 60 days student pilot certificate No. 313702 of C. A. Porter, Jr., for flying an aircraft from an undesignated landing area without receiving prior approval from an authorized representative of the Civil Aeronautics Administration, and other violations of the Civil Air Regulations. (Suspension to begin 10 days from date of Order.)

ORDER No. 1783 June 5, 1942

Revoked student pilot certificate No. S-314030 of Kile McDaniel for operating aircraft on a civil airway carrying a passenger other than a certificated instructor, in violation of the Civil Air Regulations.

ORDER No. 1784 June 5, 1942

Amended Order, Serial No. 1526, dated February 13, 1942, which suspended private pilot certificate No. 56251-41 of James Edward Leverich for 6 months, beginning February 23, to provide that suspension terminate on June 6, 1942.

ORDER No. 1785 June 5, 1942

Revoked student pilot certificate No. S-234189 of Robert Roosevelt Cline for flying an aircraft in air commerce carrying a passenger other than a certificated instructor, and other violations of the Civil Air Regulations. (Opinion and Order.)

ORDER No. 1786 June 5, 1942

Amended, temporarily, certificate of public convenience and necessity of Transcontinental & Western Air, Inc., so as to include Terre Haute, Ind., as an intermediate point between the intermediate points Indianapolis, Ind., and St. Louis, Mo., on Route No. 2.

ORDER No. 1787 June 8, 1942

Revoked student pilot certificate No. S-359540 of Irvin William Lorts for

operating an aircraft on a civil airway carrying a passenger other than a certificated instructor, and other violations of the Civil Air Regulations.

ORDER No. 1788 May 5, 1942

Amended certificate of public convenience and necessity of Pan American Airways, Inc., so as to include Tanacross, Alaska, and Burwash Landing, Yukon Territory, Canada, as intermediate points, to be served on a flag stop service basis, with respect to passengers and property, except mail, between the terminal points Fairbanks, Alaska, and Whitehorse, Yukon Territory, Canada; Denied application of Pan American Airways, Inc., for an amendment of its certificate of public convenience and necessity authorizing it to engage in air transportation between the terminal point Fairbanks, Alaska, and Whitehorse, Yukon Territory, Canada, so as to designate Tanacross, Alaska, as an intermediate point on said route, and to authorize air transportation between Tanacross and Anchorage, Alaska; Denied application of Alaska Air Lines, Inc., for a certificate of public convenience and necessity authorizing it to engage in air transportation between the terminal points Juneau and Anchorage and the intermediate points Yakutat, Cordova, and Valdez, all in the Territory of Alaska; Denied application of Pan American Airways, Inc., for approval of its purchase of certain properties, equipment, and rights of William L. Lavery, an individual doing business under the name of Lavery Airways; Dismissed application of Alaska Air Lines, Inc., and A. G. Woodley, doing business as Woodley Airways, for approval of a merger of their properties; and dismissed application of Alaska Air Lines, Inc., for approval of interlocking relationship of D. H. Goodman. (Opinion and order.) (Signed by the President June 5, 1942.)

ORDER No. 1789 May 27, 1942

Amended certificate of public convenience and necessity held by Pan American-Grace Airways, Inc., to provide for air transportation of persons, property, and mail between Antofagasta, Chile, and Salta, Argentina, and between Quito, Ecuador, and Ipiales, Colombia. (Opinion and Order.) (Signed by the President June 5, 1942.)

ORDER No. 1790 June 9, 1942

Instituted an investigation and assigned for hearings the matter of the complaint of Airline Pilots Association against National Airlines, Inc.

ORDER No. 1791 *June 8, 1942*
Dismissed petition for reconsideration of Order, Serial No. 1504, which suspended private pilot certificate No. 18946-40 held by Wilbur E. Rockstroh.

ORDER No. 1792 *June 11, 1942*
Authorized Eastern Air Lines, Inc., to temporarily engage in air transportation to and from Evansville, Ind., as an alternate intermediate point to Louisville, Ky., on Route No. 10.

ORDER No. 1793 *June 12, 1942*
Authorized American Airlines, Inc., Eastern Air Lines, Inc., Transcontinental & Western Air, Inc., and United Air Lines Transport Corporation to suspend service temporarily to and from Newark, N. J., until further order of the Board.

ORDER No. 1794 *June 15, 1942*
Suspended student pilot certificate No. S-363342 of Wm. P. Jones for flying an uncertified aircraft across a civil airway and other violations of the Civil Air Regulations. (Suspension shall be for a period of 5 months and until such times as Respondent shall complete to the satisfaction of an authorized representative of the Administration of Civil Aeronautics a written examination on Parts 20 and 60 of the Civil Air Regulations.)

ORDER No. 1795 *June 15, 1942*
Dismissed complaint filed by the Administrator of Civil Aeronautics alleging that Joseph P. Jasinski was not qualified to hold a private pilot certificate.

ORDER No. 1796 *June 15, 1942*
Amended Order, Serial No. 1636, which revoked student pilot certificate No. S-324462 held by A. J. Roth so that Respondent may at any time after June 15, 1942, apply for any type of pilot certificate: *Provided*, That any type of pilot certificate issued to Respondent shall contain the restriction that the holder of said certificate may pilot aircraft only while taking instruction or check flights from instructors or Civil Aeronautics Administration Inspectors, or in piloting aircraft in line of military duty; this restriction shall be effective on and until March 30, 1943.

ORDER No. 1797 *June 15, 1942*
Granted Colonial Airlines, Inc., permission to withdraw its application to provide for the dispatch of air mail at Albany, N. Y., and terminated effective date of order of the Postmaster General, dated May 12, 1942.

ORDER No. 1798 *June 10, 1942*
Revoked student pilot certificate No. S-157105 of Edward L. Martin for piloting an aircraft over an open air assembly of persons at an altitude of less than 1,000 feet above the ground, in violation of the Civil Air Regulations.

ORDER No. 1799 *June 17, 1942*
Temporarily suspended commercial pilot certificate No. 169430 of Charles A. Greek who, while holder of student pilot certificate No. S-373220, flew an aircraft aerobatically over an airport without being equipped with a parachute, and other violations of the Civil Air Regulations.

ORDER No. 1800 *June 17, 1942*
Revoked student pilot certificate No. S-160158 of Dale Eugene Porter for flying an aircraft carrying a passenger other than a certificated instructor without the dual controls having been made inoperative, and other violation of the Civil Air Regulations.

ORDER No. 1801 *June 17, 1942*
Revoked student pilot certificate No. S-300919 of Jacob Fairman for carrying a passenger other than a certificated instructor without having obtained clearance for the flight, in violation of the Civil Air Regulations.

ORDER No. 1802 *June 19, 1942*
Authorized Colonial Airlines, Inc., to suspend service at Glen Falls, N. Y., until further order of the Board.

ORDER No. 1803 *June 19, 1942*
Authorized Western Air, Inc., to suspend service at West Yellow Stone, Mont., until further order of the Board.

ORDER No. 1804 *June 19, 1942*
Approved a Passenger Traffic Agreement (part of Contract CAB 214) between Pan American Airways, Inc., and Sabena (Societe Anonyme Belge d'Exploitation de la Navigation Aerienne).

ORDER No. 1805 *June 19, 1942*
Dismissed the application of Wien Alaska Airlines for approval of the acquisition of Mirrow Air Service and revoked the temporary approval of the interlocking relationship of Sigurd Wien.

ORDER No. 1806 *June 19, 1942*
Temporarily suspended student pilot certificate No. S-25242 of Lee Roy Allen for carrying a passenger other than a certificated instructor without having obtained clearance for the flight, in violation of the Civil Air Regulations.

ORDER No. 1807 *June 19, 1942*
Amended Order, Serial No. 1779, so as to commence temporary suspension of commercial pilot certificate No. 28971 of Howard D. Campbell on June 30 instead of June 20, 1942.

ORDER No. 1808 *June 23, 1942*
Authorized Catalina Air Transport to temporarily suspend service on its route between Avalon, Santa Catalina Island, Calif., and Los Angeles, Calif., effective June 24, 1942.

ORDER No. 1809 *June 24, 1942*
Approved interlocking relationships of H. M. Gillespie and American Export Airlines, Inc.

ORDER No. 1810 *June 24, 1942*
Amended Order Serial No. 1755 so as to Authorize Inland Air Lines, Inc., to suspend service temporarily on route No. 35 until such time as said air carrier shall obtain an air carrier operating certificate for air transportation of property and mail with single-engine equipment on said route; thereafter said air carrier shall be authorized to suspend service on said route with respect to persons only until the further order of the Board.

ORDER No. 1811 *June 24, 1942*
Amended Order Serial No. 1756 so as to authorize Mid-Continent Airlines, Inc., to suspend service temporarily on route No. 48 until such time as said air carrier shall obtain an air carrier operating certificate for air transportation of property and mail with single-engine equipment on said route; thereafter said air carrier shall be authorized to suspend service on said route with respect to persons only until the further order of the Board.

ORDER No. 1812 *June 24, 1942*

Amended Order Serial No. 1757 so as to authorize Northeast Airlines, Inc., to suspend service temporarily between Boston, Mass., and Montreal, Canada, on route No. 27 until such time as said air carrier shall obtain an air carrier operating certificate for air transportation of property and mail with single-engine equipment between Boston, Mass., and Montreal, Canada, on said route; thereafter said air carrier shall be authorized to suspend service on said route with respect to persons only until the further order of the Board.

ORDER No. 1813 *June 24, 1942*

Amended Order Serial No. 1758 so as to authorize Northwest Airlines, Inc., to suspend service temporarily on route No. 45 until such time as said air carrier shall obtain an air carrier operating certificate for air transportation of property and mail with single-engine equipment on said route; thereafter said air carrier shall be authorized to suspend service on said route with respect to persons only until the further order of the Board.

ORDER No. 1814 *June 25, 1942*

Rescinded Order Serial No. 1752 so as to allow Continental Air Lines, Inc., to resume service on route No. 43.

ORDER No. 1815 *June 25, 1942*

Amended Order Serial No. 1762 so as to authorize temporary suspension of service at San Diego, Calif., by United Air Lines Transport Corporation; this will permit service to and from Long Beach, Calif., on a flag stop basis with respect to persons enrolled in or employed by the Armed Service.

ORDER No. 1816 *June 26, 1942*

Consolidated Dockets 715 and 738 (Pan American Airlines, Inc.) for the purpose of hearing and authorized Eastern Air Lines, Inc., to intervene in the consolidated proceeding.

ORDER No. 1817 *June 26, 1942*

Temporarily exempted Pan American Airways, Inc., from the provisions of section 401 (a) of the Civil Aeronautics Act of 1938, as amended, insofar as they would otherwise prevent Pan American Airways, Inc., from temporarily engaging in the air transportation of persons, property, and mail between New York and San Juan, between New York and Port of Spain, between New York and Belem, and between New York and Natal, subject to certain conditions.

ORDER No. 1818 *June 26, 1942*

Postponed effective date of Amendments Nos. 04-9, 04-10, 15-1, 60-59, and 60-60 of the Civil Air Regulations until November 1, 1942.

ORDER No. 1819 *June 26, 1942*

Permitted National Airlines, Inc. to withdraw its petition for an order fixing the rate for Routes Nos. 31 and 39.

ORDER No. 1820 *June 29, 1942*

Amended revocation order (Serial No. 1738) in the matter of Robert Rybolt, holder of private pilot certificate No. 91431-41, so as to allow additional evidence to be presented.

ORDER No. 1821 *June 29, 1942*

Dismissed the complaint filed by the Administrator of Civil Aeronautics alleging that Verner Richard Bierley, the holder of commercial pilot certificate No. 37594, was not qualified to hold said certificate.

ORDER No. 1822 *June 29, 1942*

Suspended for five months private pilot certificate No. 78573-41, held by Alva D. Hyder, for piloting an aircraft carrying passengers while the dual controls were operative and other violations of the Civil Air Regulations; said period of suspension shall be deemed to have commenced on February 13, 1942, and shall continue until such certificate has been suspended for an aggregate period of 5 months.

ORDER No. 1823 *June 29, 1942*

Granted request of Delta Air Corporation to withdraw its petition, as amended, for supplemental order in the matter of compensation for the transportation of mail by aircraft, the facilities used and useful therefor, and the services connected therewith.

ORDER No. 1824 *June 29, 1942*

Authorized temporary holding of certain interlocking relationships in the matter of the applications of Roy Barton White and Railway Express Agency, Inc.

REGULATIONS

AMENDMENT 20-46 *May 22, 1942*

Effective June 1, 1942:

Part 20 of the Civil Air Regulations is amended as follows:

1. Strike section 20.104 in its entirety and insert in lieu thereof the following:

"20.104 Physical condition. Applicant shall meet the physical standards of the Third Class prescribed in Part 29."

2. Strike section 20.124 and insert in lieu thereof the following:

"20.124 Physical condition. Applicant shall meet the physical standards of the Third Class prescribed in Part 29."

3. Strike section 20.144 in its entirety and insert in lieu thereof the following:

"20.144 Physical condition. Applicant shall meet the physical standards of the Second Class prescribed in Part 29."

4. Add a new section 20.500 after section 20.50 to read as follows:

"20.500 No practical or theoretical tests or other examinations will be given unless the applicant is possessed of a medical certificate issued by an authorized medical examiner of the Administrator or other evidence satisfactory to the Administrator that the applicant has met the appropriate physical requirements prescribed for the issuance of a pilot certificate."

5. Strike section 20.52 in its entirety and insert in lieu thereof the following:

"20.52 (Unassigned)." 6. Strike from the table of contents the words "20.52 Physical examinations" and insert in lieu thereof the words "20.52 (Unassigned)." 7. Amend section 20.620 to read as follows:

"20.620 Medical certificate. A medical certificate issued by an authorized medical examiner of the Administrator or other evidence satisfactory to the Administrator that the pilot has met the appropriate physical requirements prescribed in this Part shall be carried by such pilot while piloting aircraft."

AMENDMENT 20-48 *May 29, 1942*

Effective May 29, 1942:

Part 20 of the Civil Air Regulations is amended as follows:

Amend section 20.617 to read as follows:

"20.617 Permission to use aircraft. Neither the owner nor any one having custody of an aircraft shall permit any person to operate such aircraft unless the owner or the one having custody of the aircraft has ascertained that such person is the holder of an appropriate currently effective pilot certificate by actual examination of the certificate and by requiring such person to identify himself as the person referred to in the certificate. If any pilot is found to have piloted an aircraft after December 10, 1941, without possessing an appropriate currently effective pilot certificate, the owner of the aircraft will be presumed to have permitted such piloting in violation of this section."

AMENDMENT 20-49 *May 29, 1942*

Effective May 29, 1942:

Part 20 of the Civil Air Regulations is amended as follows:

Amend section 20.149 to read as follows:

"20.149 Military competence. An applicant who within 60 days preceding application, has been an active member of the regular Army, Navy, Marine Corps, or Coast Guard of the United States, or a reserve member of such service, on active duty for a period of not less than 1 year, or a citizen of the United States who, within 60 days preceding application, has been an active member for a period of not less than 1 year of, and has been honorably discharged from the armed service of any government allied with the United States during the present war emergency, will be deemed to have met the requirements of section 20.145 through section 20.147 if he submits to an inspector of the Administrator a certificate from the appropriate officer in charge of flying in his service that he was on a flying status as an aircraft pilot at the time of his separation from the service, and was at that time competent to pilot aircraft of a stated type and, in the case of an airplane, airplane class and horsepower: Provided, That an applicant who is an American citizen and who has been honorably discharged from the armed forces of a foreign government allied with the United States shall satisfactorily accomplish a written examination on the provisions of the Civil Air Regulations applicable to his grade of certificate."

AMENDMENT 20-50 *June 15, 1942*

Effective June 20, 1942:

Part 20 of the Civil Air Regulations is amended as follows:

20.46 Reexamination. The following rules shall govern application for reexamination for special ratings:

(a) An applicant who has failed any prescribed theoretical examination may apply for reexamination at any time after the expiration of 30 days from the date of such failure, or, after he has received not less than 5 hours instruction on each subject of the examination failed from whichever one of the following persons is appropriate:

1. A certificated flight instructor.

2. A certificated ground instructor, rated for the subject.

3. A person qualified to instruct in the theory of instrument flight.

Applicant shall verify such instruction by presenting a statement from the instructor showing the amount of instruction given and

stating that he deems the applicant qualified to pass the required examination in such subject.

(b) An applicant who has failed the flight test for a special rating may apply for reexamination thereon only after he has logged at least 6 additional hours of flight instruction and his instructor shall have certified in the applicant's log book that he deems such applicant qualified to pass the required flight test; such instruction shall be given if for a flight instructor rating by a certificated flight instructor and if for an instrument rating by a pilot holding the appropriate aircraft rating and an instrument rating.

AMENDMENT 21-6 *May 22, 1942*

Effective June 1, 1942:

Part 21 of the Civil Air Regulations is amended as follows:

1. Strike sections 21.14 through 21.148 (d) and insert in lieu thereof the following:

"21.14 Physical condition. Applicant shall meet the physical standards of the First Class prescribed in Part 29."

2. Strike section 21.252 (e) in its entirety.

3. Strike the words "60 days" as they appear in section 21.31 and insert in lieu thereof the words "6 months."

4. Add a new section 21.400 to read as follows:

"21.400 Periodic physical examinations. A certificated airline transport pilot shall not pilot an aircraft in flight unless, within the 6-month period immediately preceding such flight, he has met the physical requirements of this Part by passing an examination, given by an authorized airline medical examiner of the Administrator: Provided, That the holder of an airline transport pilot certificate may, in lieu of each alternate periodic physical examination by such medical examiner of the Administrator, submit evidence satisfactory to the Administrator that he has within the preceding 15 days met at least the physical requirements prescribed in this Part by passing a physical examination prescribed by the air carrier by which he is employed."

5. Add a new section 21.401 to read as follows:

"21.401 Medical certificate. A medical certificate issued by an authorized airline medical examiner of the Administrator or other evidence satisfactory to the Administrator that the pilot has met the physical requirements of this Part shall be carried by such pilot while piloting aircraft."

AMENDMENT 21-7 *June 26, 1942*

Effective June 26, 1942:

Part 21 of the Civil Air Regulations is amended as follows:

1. Amend section 21.24 to read as follows:

"21.24 Duration. An airline transport pilot certificate shall be of 60 days' duration and, unless the holder thereof is otherwise notified by the Administrator within such period, it shall continue in effect thereafter, until otherwise specified by the Board, unless suspended or revoked."

2. Strike sections 21.25, 21.250 (a), and 21.25 (b) and substitute in lieu thereof section 21.25 to read as follows:

"21.25 Expired certificates: special issuance. The holder of an airline transport pilot certificate which has expired within the preceding 12 months, upon application, may obtain a new airline transport pilot certificate and aircraft rating to pilot aircraft of the same type and with the same special rating theretofore held immediately prior to its expiration, by demonstrating to the satisfaction of the Administrator that he is qualified to hold the certificate and rating sought."

3. Strike section 21.42 and substitute in lieu thereof section 21.42 to read as follows:

"21.42 Recent experience requirements."

"21.42 Without passengers. A certificated airline transport pilot who within the preceding 6 calendar months has not made and logged at least 3 take-offs and 3 landings to a full stop in aircraft of the type and class to be flown, shall not pilot such aircraft until he has made 3 take-offs and 3 landings to a full stop therein, accompanied by a certificated pilot of at least private grade holding an appropriate type, class and horsepower rating."

"21.42 Passenger flight (day and night). A certificated airline transport pilot shall not pilot an aircraft carrying any person other than the members of the crew thereof, cer-

tified airmen carried in air carrier aircraft in furtherance of their official duties, or a certificated instructor rated for the aircraft operated, unless within the preceding 3 calendar months he shall have made and logged at least 3 take-offs and landings to a full stop in an aircraft of the same type and class as that of the aircraft in which such person is carried. A certificated airline transport pilot shall not pilot such aircraft between sunset and sunrise unless he has made at least one of the 3 required take-offs and landings between sunset and sunrise.

21.23 Instrument flight. A certificated airline transport pilot who within the preceding 6 calendar months has not flown and logged at least 2 hours of flight time solely by reference to instruments under either actual or properly simulated instrument flight conditions, shall not pilot an aircraft under such conditions until he has flown and logged at least 2 hours of such flight time accompanied by a certificated pilot of at least private grade holding an appropriate type, class and horsepower rating for the aircraft, and authorized to operate aircraft under instrument conditions."

4. Add a new section 21.444 to read as follows:

21.444 Reports. The holder of an airline transport pilot certificate shall furnish the authorized airline medical examiner of the Administrator, at the time of each physical examination to be forwarded by him to the Administrator, a report setting forth the amount and type of his aeronautical experience and such other pertinent data as the Administrator may require since his last preceding report."

5. Amend the table of contents to conform to Items 2 and 3 of this amendment.

AMENDMENT 22-5 May 22, 1942
Effective June 1, 1942:

Part 22 of the Civil Air Regulations is amended as follows:

1. Strike section 22.104 and insert in lieu thereof the following:

"**22.105 Physical condition.** Applicant shall meet the physical standards of the Third Class prescribed in Part 29."

2. Strike section 22.114 and insert in lieu thereof the following:

"**22.115 Physical condition.** Applicant shall meet the physical standards of the Third Class prescribed in Part 29."

3. Strike section 22.124 and insert in lieu thereof the following:

"**22.125 Physical condition.** Applicant shall meet the physical standards of the Second Class prescribed in Part 29."

4. Amend section 22.22 to read as follows:

"**22.22 Periodic endorsement requirements.** No lighter-than-air pilot certificate shall receive a periodic endorsement unless the holder thereof (1) shall make application for endorsement on the applicable form prescribed and furnished by the Administrator and (2) shall have logged the hours of solo flight time hereinafter required with respect to the following classes of lighter-than-air pilot certificates or in lieu thereof satisfactorily passes the flight test required for the original issuance of his certificate:

(a) Student lighter-than-air pilot:

(1) No flight time required.

(b) Private lighter-than-air pilot:

(1) Fifteen hours of solo flight time within the endorsement period in an airship.

(c) Commercial lighter-than-air pilot:

(1) Twenty hours of solo flight time within the endorsement period in an airship, of which not less than 10 hours shall be solely by instruments. In lieu of not more than 5 hours of this requirement the applicant may show an equal or greater amount of practice under simulated conditions not in flight.

(d) Free balloon pilot:

(1) No flight time required."

5. Amend section 22.23 (e) to read as follows:

"(e) The holder of an expired free balloon pilot certificate may secure a new certificate by meeting the physical standards of the Third Class prescribed in Part 29."

6. Amend section 22.23 (e) to read as follows:

"(e) In applying this section, the time within which flight time must be secured in order to comply with the periodic endorsement requirements shall be computed from the date of application for special issuance, rather than the date of expiration of the endorsement period as provided in § 22.22."

7. Strike section 22.241 in its entirety and insert in lieu thereof the following:

"**22.241** The appropriate physical examination prescribed for the original issuance of a lighter-than-air pilot certificate shall be passed before any practical or theoretical test or other examination will be given."

8. Add a new section 22.314 to read as follows:

"**22.314 Periodic physical examination.**

(a) A certificated lighter-than-air pilot shall not pilot an aircraft in flight unless within the 12-month period immediately preceding such flight he has met the appropriate physical requirements for the original issuance of his certificate by passing an examination conducted by an authorized medical examiner of the Administrator.

(b) In lieu of the physical examination conducted by an authorized medical examiner of the Administrator, a certificate from the appropriate officer in charge of flying in the Army, Navy, Marine Corps, or Coast Guard certifying that the applicant is on pilot status solo in such service will be accepted as evidence of the physical fitness required for the issuance of any medical certificate provided for in this Part: *Provided*, That the physical qualifications required for such pilot status are not less than those required by these regulations for the grade of pilot certificate applied for."

9. Add a new section 22.320 to read as follows:

"**22.320 Medical certificate.** A medical certificate issued by an authorized medical examiner of the Administrator or other evidence satisfactory to the Administrator that the pilot has met the appropriate physical requirements prescribed in this Part shall be carried by such pilot while piloting aircraft."

10. Add a new section 26.40 to read as follows:

"**26.40** A certificated air-traffic control tower operator shall not serve as such unless within the 12-month period immediately preceding such service he has met the physical requirements for the original issuance of his certificate by passing an examination conducted by an authorized medical examiner of the Administrator."

11. Add a new section 26.50 to read as follows:

"**26.50** A certificated air-traffic control tower operator shall not serve as such unless within the 12-month period immediately preceding such service he has met the physical requirements for the original issuance of his certificate by passing an examination conducted by an authorized medical examiner of the Administrator."

12. Add a new section 26.540 to read as follows:

"**26.540 Medical certificate.** A medical certificate issued by an authorized medical examiner of the Administrator or other evidence satisfactory to the Administrator that the air-traffic control-tower operator has met the physical requirements prescribed in this Part shall be carried by such airman while on duty."

13. Add a new section 26.550 to read as follows:

"**26.550 Duration.** An air-traffic control-tower operator's certificate shall be of 60 days' duration, and unless the holder is otherwise notified by the Administrator within such period, it shall continue in effect thereafter until otherwise specified by the Board, unless suspended or revoked."

14. Add a new section 26.560 to read as follows:

"**26.560 (Unassigned).**"

15. Add a new section 24.55 to read as follows:

"**24.55 Recent Experience Requirements.** The holder of a mechanic's certificate shall not exercise the privileges thereunder, unless within the preceding 24 calendar months he has:

(1) Served as a mechanic under the terms of his certificate and rating for at least 6 months of such 24-month period, or

(2) Demonstrated to the satisfaction of the Administrator that he is able to meet the standards currently prescribed by the Civil Air Regulations for the issuance of the certificate and rating."

16. Add a new section 24.56 to read as follows:

"**24.56 Reports.** The holder of a mechanic's certificate shall transmit to the Administrator, annually, during the month of January, a report for the preceding 12-month period, setting forth the amount and type of his aeronautical experience and such other pertinent data as the Administrator may require."

17. Add a new section 24.57 to read as follows:

"**24.57 Expired Certificates: special issuance.** The holder of a mechanic's certificate which has expired during the preceding 12 months may obtain a new certificate and the same rating theretofore held immediately prior to its expiration, upon application, by demonstrating to the satisfaction of the Administrator that he is able to meet the standards currently prescribed by the Civil Air Regulations for the issuance of the certificate and rating."

18. Add a new section 26.500 to read as follows:

"**26.500 Periodic physical examination.** The holder of an air-traffic control-tower operator's certificate shall not exercise the privileges thereunder unless within the preceding 12 calendar months he has met the physical standards of the Second Class prescribed in Part 29 by passing an examination conducted by an authorized medical examiner of the Administrator."

19. Add a new section 26.61 to read as follows:

"**26.61 Recent Experience Requirements.** The holder of an air-traffic control-tower operator's certificate shall not exercise the privileges thereunder unless:

"**25.37 Special issuance of certificate or rating.**"

"**25.38 Revocation.**"

"**25.39 Factory mechanic rating limitations.**"

AMENDMENT 26-3 May 22, 1942

Effective June 1, 1942:

Part 26 of the Civil Air Regulations is amended as follows:

1. Strike section 26.10 and insert in lieu thereof the following:

"**26.10 Physical condition.** Applicant shall meet the physical standards of the Second Class prescribed in Part 29."

2. Strike from the table of contents the words "26.10 Physical" and insert in lieu thereof the words "26.10 Physical condition."

3. Strike the words "60 days" as they appear in section 26.30 (a) and insert in lieu thereof the words "12 months."

4. Strike section 26.30 (b) and insert in lieu thereof the following:

"(b) In lieu of a physical examination conducted by an authorized medical examiner of the Administrator, a form acceptable to the Administrator, signed by a medical officer on duty with the Army, Navy, Marine Corps, or Coast Guard who is authorized to conduct physical examinations for flying stating that the applicant is an active member of his service and has met within the preceding 12 months the physical requirements prescribed by § 26.10."

5. Strike section 26.40 (a) (1) and renumber section 26.40 (a) (2) to read "26.40 (a) (1)"

6. Add a new section 26.500 to read as follows:

"**26.500** A certificated air-traffic control-tower operator shall not serve as such unless within the 12-month period immediately preceding such service he has met the physical requirements for the original issuance of his certificate by passing an examination conducted by an authorized medical examiner of the Administrator."

7. Add a new section 26.540 to read as follows:

"**26.540 Medical certificate.** A medical certificate issued by an authorized medical examiner of the Administrator or other evidence satisfactory to the Administrator that the air-traffic control-tower operator has met the physical requirements prescribed in this Part shall be carried by such airman while on duty."

AMENDMENT 26-4 June 29, 1942

Effective December 7, 1941:

Part 26 of the Civil Air Regulations is amended as follows:

1. Amend section 26.4 to read as follows:

"**26.4 Duration.** An air-traffic control-tower operator's certificate shall be of 60 days' duration, and unless the holder is otherwise notified by the Administrator within such period, it shall continue in effect thereafter until otherwise specified by the Board, unless suspended or revoked."

2. Strike section 26.40 and insert in lieu thereof the following:

"**26.40 (Unassigned).**"

3. Strike section 26.41 and insert in lieu thereof the following:

"**26.41 Expired Certificates: special issuance.** The holder of an air-traffic control-tower operator's certificate which has expired during the preceding 12 months may obtain a new certificate and the same rating theretofore held immediately prior to its expiration, upon application, by demonstrating to the satisfaction of the Administrator that he is able to meet the standards currently prescribed by the Civil Air Regulations for the issuance of the certificate and rating."

4. Strike section 26.500.

5. Add a new section 26.60 to read as follows:

"**26.60 Periodic physical examination.** The holder of an air-traffic control-tower operator's certificate shall not exercise the privileges thereunder unless within the preceding 12 calendar months he has met the physical standards of the Second Class prescribed in Part 29 by passing an examination conducted by an authorized medical examiner of the Administrator."

6. Add a new section 26.61 to read as follows:

"**26.61 Recent Experience Requirements.** The holder of an air-traffic control-tower operator's certificate shall not exercise the privileges thereunder unless:

(1) If rated as a junior air-traffic controller operator he has served for at least 3 months as an operator at the airport to which the rating applies during the 12 calendar months immediately preceding, or

(2) If rated as a senior air-traffic controller operator he has served for at least 3 months as an operator at the airport to which the rating applies during the 6 calendar months immediately preceding, or

(3) He has demonstrated to the satisfaction of the Administrator that he is able to meet the standards currently prescribed by the Civil Air Regulations for the issuance of the certificate and rating."

7. Add a new section 26.62 to read as follows:

26.62 Reports. The holder of an air-traffic control-tower operator certificate shall furnish the medical examiner, at the time of each physical examination, to be forwarded by him to the Administrator, a report setting forth the amount and type of his aeronautical experience and such other pertinent data as the Administrator may require, since his last preceding medical examination."

8. Amend the table of contents to conform to Items 3, 5, 6, and 7 of this amendment.

Part 20*-PHYSICAL STANDARDS FOR AIR-MEN May 22, 1942

Effective June 1, 1942:

Sec. 29.1 Physical standards.

29.10 First Class.

29.11 Second Class.

29.12 Third Class.

29.2 Waiver of physical standards.

29.1 Physical standards. The physical standards for airmen shall be as follows:

29.10 First Class

(a) Eye. Applicant shall have:

(1) A visual acuity of at least 20/20 in each eye separately without correction: *Provided*, That if the vision in either or both eyes is not poorer than 20/50 and is brought up to 20/20 or better in each such eye by glasses, the applicant may be qualified upon condition that correcting glasses be worn while exercising the privileges of his airman certificate.

(2) An average depth perception of 30 millimeters or less on a prescribed depth perception apparatus, with or without correction: *Provided*, That if the depth perception is greater than 30 millimeters without correction, and is corrected to at least 30 millimeters average by glasses, the applicant may be qualified upon condition that such glasses be worn while exercising the privileges of his airman certificate.

(3) No diplopia in any meridian within 35 degrees from the point of visual fixation.

(4) Not more than 1 diopter of hyperopia in either eye.

(5) Not more than 10 diopters of esophoria.

(6) Not more than 5 diopters of exophoria.

(7) An abduction of not less than 3 diopters nor more than 15 diopters.

(8) An adduction of 6 or more diopters.

(9) An accommodation of at least V=1.00 at 18 inches with each eye separately without the use of corrective glasses.

(10) Normal color vision.

(11) Normal visual fields.

(12) No acute or chronic pathological condition of either eye or edenoxae which may interfere with its proper function, may progress to that degree, or may be aggravated by flying.

(b) Ear, nose, throat, and equilibrium. Applicant shall be able to hear the whispered voice at 8 feet with each ear separately; shall have no acute or chronic disease of the middle or internal ear; no disease of the mastoid; no unhealed (unclosed) perforations of the ear drum; no disease or malformation of the nose or throat which may interfere with or be aggravated by flying; and no disturbance of equilibrium.

If the hearing acuity for the whispered voice is less than 20 feet in either ear the applicant shall possess a hearing acuity of at least 50 percent of normal in each ear throughout the effective speech and radio range as demonstrated by a standard audiometer.

(c) General physical condition. Applicant shall have no organic or functional disease or structural defect or limitation which would interfere with the safe piloting of aircraft, or other duties of his airman certificate.

Reclining blood pressure shall not exceed 135 mm. systolic, nor 90 mm. diastolic.

Applicants 40 years of age or over shall demonstrate a degree of circulatory efficiency compatible with the safe operation of aircraft at high altitudes.

(d) Nervous system. Applicant shall have no disease of the mental or nervous system and no abnormality of the personality.

29.11 Second Class.

(a) Eye. Applicant shall have:

(1) A visual acuity of at least 20/20 in each eye separately without correction: *Provided*, That if the vision in either or both eyes is not poorer than 20/50 and is brought up to 20/20 or better in each such eye by glasses, the applicant may be qualified upon condition that correcting glasses be worn while exercising the privileges of his airman certificate.

(2) An average depth perception of 30 millimeters or less on a prescribed depth perception apparatus, with or without correction: *Provided*, That if the depth perception is greater than 30 millimeters without correction, and is corrected to at least 30 millimeters average by glasses, the applicant may be qualified upon condition that such glasses be worn while exercising the privileges of his airman certificate.

(3) No diplopia in any meridian within 35 degrees from the point of visual fixation.

(4) Not more than one diopter of hyperopia.

(5) Properly balanced eye muscles with an abduction of three diopters or more, and adduction of six diopters or more.

(6) Sufficient accommodation to pass a test prescribed by the Administrator based primarily upon ability to read official aeronautical maps.

(7) Normal fields of vision; and

(8) No pathology of the eye.

(b) Ear, nose, throat, and equilibrium. Applicant shall be able to hear the whispered voice at 8 feet with each ear separately; shall have no acute or chronic disease of the middle or internal ear; no disease of the mastoid; no unhealed (unclosed) perforations of the ear drum; no disease or malformation of the nose or throat which may interfere with or be aggravated by flying; and no disturbance of equilibrium.

(c) General physical condition. Applicant shall have no organic or functional disease or structural defect or limitation which would interfere with the safe piloting of aircraft, or other duties of his airman certificate.

(d) Nervous system. Applicant shall have no disease of the mental or nervous system and no abnormality of the personality.

29.12 Third Class.

(a) Eye. Applicant shall have:

(1) A visual acuity of at least 20/50 in each eye separately without correction: *Provided*, That if the vision in either or both eyes is poorer than 20/50 and is brought up to 20/30 or better in each such eye by glasses, the applicant may be qualified upon condition that such glasses be worn while exercising the privileges of his airman certificate.

(2) An average depth perception of 30 millimeters or less on a prescribed depth perception apparatus, with or without correction: *Provided*, That if the depth perception is greater than 30 millimeters without correction, and is corrected to 30 millimeters average by glasses the applicant may be qualified upon condition that such glasses be worn while exercising the privileges of his airman certificate.

(3) No diplopia unless corrected by glasses in which case such glasses shall be worn while exercising the privileges of his airman certificate.

(4) No serious pathology of the eye.

(b) Ear, nose, throat, and equilibrium. Applicant shall be able to hear the whispered voice at 3 feet; shall have no acute or chronic disease of the internal ear; no disease or malformation of the nose or throat which may interfere with or be aggravated by flying, and no disturbance in equilibrium.

(c) General physical condition. Applicant shall have no organic or functional disease or structural defect or limitation which would interfere with the safe piloting of aircraft, or other duties of his airman certificate.

(d) Nervous system. Applicant shall have no disease of the mental or nervous system and no abnormality of the personality.

29.13 Waiver of physical standards. An airman certificate may be issued to an applicant who does not meet the appropriate physical standards if in the opinion of the Administrator his aeronautical experience, ability and judgment compensate for his physical deficiency. A medical certificate issued under these conditions may be limited as to type

of operation, type of aircraft or period of reexamination: *Provided*, That the provisions of this section shall not apply to applicants for the original issuance of an air-line transport pilot certificate."

*This is a new part to the Civil Air Regulations.

REGULATION NO. 227 June 8, 1942

Effective June 8, 1942:

"Notwithstanding the provisions of the Civil Air Regulations to the contrary, aircraft, other than aircraft of the armed forces, shall not be operated at an altitude below 3,500 feet above the ground, or above 14,000 feet above sea level, exclusive of take-off from or landing upon an airport or other landing area, over Green Civil Airway No. 3, between the fan marker at Beacon No. 59, approximately 36 miles west of Salt Lake City, and the Wendover Range Station approximately 4 miles south of Wendover, Utah."

REGULATION NO. 228 June 9, 1942

Effective June 9, 1942:

"Notwithstanding the provisions of section 04.710 of the Civil Air Regulations to the contrary, scheduled air carrier operators engaged in military charter operations for the carriage of military cargo and personnel exclusively may dispatch aircraft at provisional gross weight subject to the pertinent conditions and restrictions applicable to scheduled operations."

Japs At Pearl Harbor Downed Pleasure Fliers

Among the victims of the Japanese attack on the Hawaiian Islands on December 7, 1941, were the four occupants of two J-3C-65 Piper Cubs. The pilots of the two airplanes were Clyde Charles Brown and Henry C. Blackwell, soldiers attached to Camp Malakole. Each held a private pilot's certificate with appropriate rating for the aircraft flown. Each pilot was accompanied by a passenger. One of the passengers was Warren D. Rasmussen, although it is not known in which plane he was riding; the identity of the other passenger is unknown.

The two planes took off at approximately 7:45 a. m. from the John Rodgers Airport, Honolulu, T. H., for local pleasure flights. The Japanese attack began about ten minutes later. At about 8:00 a. m. Normal Rapue, a sailor aboard a yard tug riding near the entrance to Pearl Harbor, observed the two planes flying about two miles from shore off Fort Weaver. He reports that he saw a number of Japanese airplanes dive on the two Cubs and shoot them down into the sea. Rescue by the yard tug was impossible because of a coral reef which lay between the tug and the place where the two airplanes fell. Subsequently, pieces of fabric from one plane were washed ashore, but no trace of the other aircraft or of the four occupants has been found.

Probable cause: Shot down by unexpected enemy action.

Over 300 Planes a Day

In the first quarter of 1941, about 1,000 planes a month were produced and by September this figure had been doubled. Exact later figures are not available but it has been stated by Donald M. Nelson that within 3 months after Pearl Harbor production had jumped 50 percent.

Status of Air Regulations

As of July 1, 1942

All persons affected by these Regulations, including those preparing for examinations for certificates may obtain required Parts of the Regulations from the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C., without charge.

ONLY PARTS NEEDED SUPPLIED FREE

For example, *pilots* are governed in general by Parts 01, 20, 60, and 98; *aircraft mechanics* by Parts 01, 04, 15, 18, 24, 98, and Section 60.32; and *aircraft engine mechanics* by Parts 01, 04, 13, 14, 18, 24, and 98. It should be remembered that individuals are entitled to receive free of charge only those portions of the Regulations which directly govern the activity in which they are engaged and this activity must be definitely stated when request is made.

HOW TO OBTAIN PARTS, AMENDMENTS, AND MANUALS

Those persons not affected by the Regulations, but desiring all or any part of the Regulations for other

purposes, may obtain them as follows: Those Parts on which a price is listed in the tabulation below are on sale by the Superintendent of Documents, U. S. Government Printing Office (shown as G. P. O. in table), Washington, D. C., and are not available for free distribution except as stated in the first paragraph.

Eventually, all Parts will be placed on sale; meanwhile, Parts not yet on sale (carrying remark in tabulation below "order from C. A. A. only") may be obtained without charge from the C. A. A. upon demonstration of valid interest on the applicant's part.

ALL AMENDMENTS TO THE REGULATIONS, AND NOTICE OF NEW PARTS, ARE PRINTED IN THE CIVIL AERONAUTICS JOURNAL, AS RELEASED.

The tabulation below carries in the right-hand column the numbers of all effective amendments to each Part issued subsequent to its publication. Parts ordered from C. A. A. include all effective

amendments, but when Parts are purchased from G. P. O. amendments must be requested separately from C. A. A.

Civil Aeronautics Manuals supplementing certain Parts with detailed interpretations of their respective provisions are issued. They are numbered the same as the Parts they supplement, and those Parts accompanied by Manuals carry appropriate notations. All Manuals are obtained from C. A. A. only, without charge.

PARTS CANCELLED AND UNASSIGNED

Cancelled Parts 00, and 03, now incorporated in Part 01.; cancelled Part 23, now incorporated in Part 51.; and cancelled Part 25, now incorporated in Part 24. Parts 90-96, inclusive, cancelled. All other Part numbers not shown are unassigned.

Bound volumes of the complete Civil Air Regulations are no longer available. Parts and amendments are punched for filing in loose-leaf binders.

Civil Air Regulations

PART NO.	TITLE	DATE	REMARKS	PRICE	EFFECTIVE AMENDMENTS
01	AIRWORTHINESS CERTIFICATES.....	11-1-41	In stock at C. A. A. and on sale at G. P. O.....	.05	01-1 ⁴ 01-2 Spec. Reg. Ser. 223.
02	TYPE AND PRODUCTION CERTIFICATES.....	3-1-41	In stock at C. A. A. and on sale at G. P. O.....	.05	
04	AIRPLANE AIRWORTHINESS (MANUAL 04, 2-1-41 ¹ , OUT OF STOCK).	4-1-41	In stock at C. A. A. and on sale of G. P. O.....	.15	116, 120, 04-3 thru 04-10, ⁵ 04-11, 04-12, ⁶ 04-13, ⁸
13	AIRCRAFT ENGINE AIRWORTHINESS (MANUAL NOT ISSUED).	8-1-41	In stock at C. A. A. and on sale at G. P. O.....	.05	
14	AIRCRAFT PROPELLER AIRWORTHINESS (MANUAL 12-1-38).	11-15-40	Out of stock; to be available from C. A. A. only.....		14-1.
15	AIRCRAFT EQUIPMENT AIRWORTHINESS (MANUAL 15, OUT OF STOCK).	11-15-40	In stock; or from C. A. A. only.....		15-1. ⁴
16	AIRCRAFT RADIO EQUIPMENT AIRWORTHINESS (MANUAL, 2-13-41).	2-13-41	In stock at C. A. A. and on sale at G. P. O.....	.05	
18	MAINTENANCE, REPAIR, AND ALTERATION OF CERTIFIED AIRCRAFT AND OF AIRCRAFT ENGINES, PROPELLERS, AND INSTRUMENTS. (MANUAL 18, 6-1-41, OUT OF STOCK).	6-1-41	In stock; order from C. A. A. only.....		
20	PILOT CERTIFICATES.....	5-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	63, 65, 75, 87, 99, 101, 107, 110, 111, 112, 115, 117, 118, 125, 127, 20-24 thru 20-49, 87, 101, 115, 21-4, 21-5, 21-6, 22-1 thru 22-5,
21	AIRPLANE TRANSPORT PILOT RATING.....	11-15-40	In stock; order from C. A. A. only.....	.10	44, 61, 73, 75, 87, 109, 24-7, 24-8, ⁶ 24-9
22	LIGHTER-THAN-AIR PILOT CERTIFICATES.....	9-15-41	In stock at C. A. A. and on sale at G. P. O.....	.05	26-1, ⁶ 26-2, 26-3
24	Mechanic Certificates.....	5-1-40	In stock at C. A. A. and on sale at G. P. O.....		
26	AIR-TRAFFIC CONTROL TOWER OPERATOR CERTIFICATES.....	2-3-42	To be available soon at C. A. A. and on sale at G. P. O.....		
27	AIRCRAFT DISPATCHER CERTIFICATES.....	7-15-40	In stock at C. A. A. and on sale at G. P. O.....	.05	74, 75, 87, 27-4, 27-5, 27-6, ⁸ 27-7
29	PHYSICAL STANDARDS FOR PILOTS.....	6-1-42	To be available at G. P. O. only.....		
40	AIR CARRIER OPERATING CERTIFICATION.....	11-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	85, 89, 102, 120, 15, ⁸ 40-6, ⁸ 40-7, ⁸ 40-8 thru 40-10
50	FLYING SCHOOL RATING (MANUAL 50, 12-40 ⁹).....	11-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	87, 113, 50-3, Reg. Ser. 216, ⁷
51	GROUND INSTRUCTOR RATING.....	5-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	87, 128, 51-4, 51-5, ⁶ 51-6,
52	REPAIR STATION RATING (MANUAL 52, 2-41).	5-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	75, 84, 87,
53	MECHANIC SCHOOL RATING (MANUAL 53, 5-40).	9-15-40	In stock at C. A. A. and on sale at G. P. O.....	.05	75, 87, 53-3,
60	AIR TRAFFIC RULES (MANUAL 60; PART 1, 12-1-40; PART 2, 8-1-40; PART 3, 12-1-40).	10-4-40	In stock at C. A. A. and on sale at G. P. O.....	.10	80, 90, 93, 102, 104, 119, 120, 121, 127, 135, 60-25 thru 60-44, 60-44 thru 60-48, 60-50 thru 60-68, 60-59, ³ 60-60, ⁴ 60-61 thru 60-63, Spec. Reg. Ser. 177,
61	SCHEDULED AIR CARRIER RULES.....	1-1-41	In stock at C. A. A. and on sale at G. P. O.....	.05	61, 94, 97, 102, 115, 120, 122, 129, 130, 132, 134, 61-17, thru 71-19, 61-20, ⁸ 61-21 thru 61-32, 61-35, Spec. Reg. Ser. 182, 188, 192.
66	FOREIGN AIR CARRIER REGULATIONS.....	4-15-42	In stock at C. A. A. and on sale at G. P. O.....	.05	
98	DEFINITIONS.....	11-15-40	In stock; order from C. A. A. only.....		98-1.
99	MODE OF CITATION OF REGULATIONS.....	11-15-40	In stock; order from C. A. A. only.....		

Regulations of the Administrator

501	AIRCRAFT REGISTRATION CERTIFICATES.....	11-1-41	In stock, order from C. A. A. only.....		
510	GENERAL REGULATIONS, WASHINGTON NATIONAL AIRPORT.	9-26-41	In stock; order from C. A. A. only.....		
511	GENERAL AERONAUTICAL RULES FOR THE WASHINGTON NATIONAL AIRPORT.	9-26-41	In stock; order from C. A. A. only.....		
525	NOTICE OF CONSTRUCTION OR ALTERATION OF STRUCTURES ON OR NEAR CIVIL AIRWAYS.	11-1-41	In stock; order from C. A. A. only.....		
531	SEIZURE OF AIRCRAFT.....	12-8-41	In stock; order from C. A. A. only.....		
600	DESIGNATION OF CIVIL AIRWAYS.....	3-1-42	Not published (See Air Navig. Radio Aids).		1, 2, 3.
601	DESIGNATION OF AIRWAY TRAFFIC CONTROL AREAS, ETC.	1-15-42	Not published (See Air Navig. Radio aids).		1 thru 9.

¹ Amendments issued as C. & I. Release No. 50, 6-3-41, and S. R. Release No. 97, 2-23-41 (out of stock).

² Amendment No. 1 issued as S. R. Release No. 62, 8-12-41.

³ Amendment 4-14-41 issued as S. R. Release No. 77, 11-13-41.

⁴ Effective date suspended until 3-1-52 by Order No. 1490.

⁵ Effective 7-1-42.

⁶ Effective 5-15-42 (No copies available. Requires identification cards. Consult C. A. A. inspector for specific provisions of this amendment.)

⁷ No copies available (waiver of requirements). Consult C. A. A. inspector for specific provisions of this amendment.

